

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 01-154511

(43)Date of publication of application : 16.06.1989

(51)Int.Cl.

H01L 21/20

H01S 3/18

(21)Application number : 62-311915

(71)Applicant : HITACHI LTD

(22)Date of filing : 11.12.1987

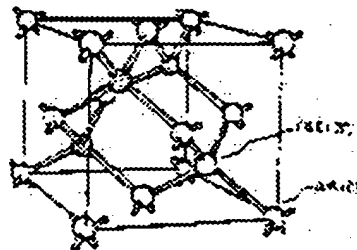
(72)Inventor : KONDO MASAHIKO  
MINAGAWA SHIGEKAZU  
KAJIMURA TAKASHI

## (54) CRYSTAL GROWTH METHOD

### (57)Abstract:

**PURPOSE:** To enable forming a heterojunction between materials having different crystal structures, by using the so-called atomic layer epitaxial growth method wherein a crystal is grown one atomic layer by one atomic layer, by supplying anion and cation alternately in time domain, to the boundary surface of solid phase crystal growth.

**CONSTITUTION:** The face (100) of zinc blended structure crystal is alternately laminated with monoatomic layers of anion and cation. In the case where the surface of the face (100) is formed by anion, when cation of a material, which originally has wurtzite structure, reaches the surface, bond to take wurtzite structure does not come out, so that it is taken in a lattice position of cation of the wurtzite structure. In this manner, by supplying anion and cation alternately in time domain to the growth boundary surface, the one which is originally wurtzite structure is turned into zinc blende structure being crystal structure of substrate, and excellent heterojunction is obtained.



## LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]